National Unit specification

General information

Unit title: Setting Up a Computer (SCQF level 4)

Unit code: H981 44

Superclass:	CA
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Version:	01

Unit purpose

The purpose of this Unit is to provide the **basic** knowledge and skills necessary to set up a desktop computer. It covers both hardware and software skills.

Hardware skills include the safe handling of components and their assembly into a complete system. Software skills include the installation and configuration of system software and application software. The Unit will provide learners with the methods and stages of software installation and the different ways in which software may be configured. Learners will also develop the skills to troubleshoot and resolve problems.

This Unit is a mandatory Unit within the National Progression Award in Computer Refurbishment at SCQF level 4. As the Unit introduces learners to the basic skills to set up a computer system, it is a suitable foundation Unit for a wide range of computing based qualifications such as GD7P 44 National Certificate in *Computing: Technical Support* at SCQF level 4.

Outcomes

On successful completion of the Unit the learner will be able to:

1   Assemble hardware components into a complete system.
2   Install system and application software.
3   Test system to ensure correct operation.

National Unit specification: General information (cont)

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Credit points and level

1 National Unit credit at SCQF level 4: (6 SCQF credit points at SCQF level 4)

Recommended entry to the Unit

Entry is at the discretion of the centre. No previous knowledge of computers is required.

Core Skills

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**.

National Unit specification: Statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Assemble hardware components into a complete system.

Performance Criteria

(a) Hardware components are correctly identified and listed.
(b) Components are booked in and out of stock correctly.
(c) Components are handled safely and correctly.
(d) Each component is tested in accordance with manufacturer's instructions.
(e) Connections between components are secure and functional.
(f) Operational requirements of each component are known and followed.
(g) Hardware problems are resolved without assistance.
(h) Health and safety requirements are observed.
(i) Terminology is used correctly.

Outcome 2

Install system and application software.

Performance Criteria

(a) Software and documentation are booked in and out of stock correctly.
(b) Software is checked for compatibility with hardware.
(c) Operating system is installed correctly.
(d) Operating system is configured in accordance with defined requirements.
(e) Drivers are installed correctly for all components that require a driver.
(f) Application software is installed in accordance with setup and licensing instructions.
(g) Application settings are adjusted to meet user requirements.
(h) Data security software is installed correctly.
(i) Software licensing is respected.

Outcome 3

Test system to ensure correct operation.

Performance Criteria

(a) Hardware sub-system works correctly.
(b) Operating system is tested to ensure system boots correctly.
(c) Software components are tested in accordance with documentation.
(d) Identify hardware not working for repair or replacement.
(e) System is tested to ensure overall correct function.
(f) System specification is accurately recorded.
(g) Tools and facilities are checked for safety, cleaned and ready for re-use.

National Unit specification: Statement of standards (cont)

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Evidence Requirements for this Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence is required to demonstrate that learners have achieved all Outcomes and Performance Criteria.

The evidence for this Unit will be an **observation checklist**, recording the candidate setting up at least **one** computer system.

The observation checklist will be completed and signed by the assessor.

The checklist will include **all** of the Performance Criteria in the Unit specification. Candidates must satisfy **all** of the criteria to pass the Unit. It is sufficient for the assessor to observe the candidate **once** to satisfy each Performance Criterion.

The checklist may be completed over an extended period of time.

The assessor must observe each Performance Criterion on **at least one occasion**.

The Guidelines on Approaches to Assessment (see the Support Notes section of this specification) provide specific examples of instruments of assessment.

National Unit Support Notes

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Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

The purpose of this Unit is to introduce learners to the basic skills required to set up a computer system. This Unit may be delivered as a stand-alone Unit or in combination with the *Refurbishing and Recycling a Computer* Unit as the two Units that make up the National Progression Award in Computer Refurbishment at SCQF level 4.

At this level, learners are required to carry out the **basic** tasks required to set up a PC. The computer system should be a standard desktop. The hardware components should be the most common components found in a typical desktop PC such as case, power supply, adaptor cards, keyboard, mouse and display. There is no requirement for learners to deal with electronic components such as motherboards and memory chips.

The software components should be similarly simple, comprising a desktop operating system and common types of application packages.

Outcome 1

This Outcome relates to the assembly of the hardware components in a desktop computer.

A basic desktop PC should be assembled, consisting of standard system Unit and peripherals.

Only the most common components should be identified and assembled.

Testing should be rudimentary but sufficient to ensure the operation (or otherwise) of each component.

Hardware problems should be simple, common problems such as no response from a keyboard or absence of sound.

The learner should be made aware of his/her personal responsibilities with respect to health and safety. Allocation of computer to be set up, equipment type and make detailed on the candidate log. An issuing system should be set up to facilitate learners booking out any hardware required to carry out tasks.

National Unit Support Notes (cont)

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Outcome 2

This Outcome is aimed to provide the learner with hands-on experience of installing operating systems and application software on PCs by the learner carrying out practical tasks such as:

♦ install an Microsoft Authorised Refurbisher (MAR) operating system and basic operating system commands
♦ boot computer from disk and confirm Hard Drive has been wiped
♦ follow setup and licensing instructions on screen and comply
♦ change settings as specified
♦ install drivers and configure if appropriate
♦ install floppy disk or CD Rom drives if required
♦ add software as specified

Common desktop operating systems should be installed (such as Windows™).

Basic application software should be installed, such as productivity software.

The configuration of system and application software should be straight-forward, such as setting the language in the operating system.

The data security software would typically consist of a firewall and anti-virus software.

Outcome 3

This Outcome relates to the testing of the assembled desktop computer (hardware and software). The emphasis for this Outcome is one of quality assurance. The learner should be made aware that testing work carried out is an essential part of setting up a computer and that s/he is responsible for the returning of a fully functioning computer system. Any peripherals that are not working during a test should be replaced or sent for repair.

All software configurations should be tested and action taken to rectify problems with re-installation of software if necessary. Again, with quality assurance in mind, all tools and facilities the learner has used should be checked and cleaned, ready for re-use. All hardware and software that the learner had booked out must be booked in.

Only basic testing should be carried out but sufficient to ensure that the computer is fit-for-use, cleansed of old data, legally licensed, and properly protected against cyber threats.

All procedures carried out on a computer system should be entered in the candidate log and checked for completeness and signed by the assessor.

Progression Pathway

On completion of this Unit a learner may progress to the National Certificate in *Computing: Technical Support* at SCQF level 5, Group Award Code GD7P 45.

National Unit Support Notes (cont)

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Guidance on approaches to delivery of this Unit

The distribution of time between Outcomes is at the discretion of the centre. However, one possible approach is to distribute the available time as follows:

Outcome 1: 15 hours
Outcome 2: 15 hours
Outcome 3: 10 hours.

Each element of learning should comprise of a mix of teaching and demonstrations followed by the learner carrying out a practical task. A holistic approach to learning and teaching of Outcomes should be employed whereby learners may gain knowledge and understanding while carrying out tasks. While a learner-centred, participative and practical approach should be encouraged, learners may be offered support through one-to-one work with the assessor or student-to-student support. Assessors should observe and give verbal feedback during practical tasks with the opportunity to re-do tasks if necessary to reinforce the learning.

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

One approach to assessment would be to ask candidates to assemble a desktop computer, taking components from stock. The assessor would observe candidate performance over an extended period of time, signing the observation checklist as-and-when the s/he observes the candidate satisfying each Performance Criterion.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at **www.sqa.org.uk/e-assessment**.

National Unit Support Notes (cont)

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Opportunities for developing Core and other essential skills

No opportunities have been identified for developing Core Skills.

Broader skills development in the areas of employability, sustainable development and citizenship may be developed by emphasising these areas in learning and teaching. For instance by inviting a practitioner from small computer repair company to talk about skills required for employability in the technical support industry, explaining that skills in setting up a computer can help lead to a more sustainable society and that the choices the learner makes by informing him/herself, the roles and responsibilities s/he accepts, justifying choices in re-using computer systems can lead to the learner accepting a more responsible citizen's role.

History of changes to Unit

Version	Description of change	Date

General information for learners

Unit title: Setting Up a Computer (SCQF level 4)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit is aimed to help you develop the necessary skills to set up a computer system, troubleshoot and resolve problems. During the course, you will have hands-on experience of how to assemble hardware components into a complete system, install operating systems and application software and test system to ensure correct operation.

This Unit is aimed at the beginners and you do not need prior knowledge or experience in computer. As the Unit introduces you to the basic skills to set up a computer system, it is a suitable foundation Unit for a wide range of computing based qualifications for instance Group Award GD7P 45, National Certificate in *Computing: Technical Support* at SCQF Level 5.

You will be assessed by a series of practical tasks throughout the Unit. An observation checklist will be completed and signed by your assessor.

You may also develop skills that may lead to employment in the computer support industry, skills in sustainable development and citizenship skills during your learning experience.